GLOSSARY OF TERMS

Acute Health Effects	Prompt radiation effects (those that would be observable within a short period of time) for which the severity of the effect varies with the dose, and for which a practical threshold exist.
Affected Personnel	Persons who have received radiation exposure or have been physically injured as a result of an accident to a degree requiring special attention as individuals, e.g., decontamination, first aid, or medical services.
Alpha Particle	A particle, identical with the nucleus of a helium atom, emitted spontaneously from the nucleus of some radioactive elements. Alpha particles have very little penetrating power but are hazardous if ingested or inhaled.
Assessment Actions	Those actions taken during or after an accident to obtain and process information that is necessary to make decisions to implement specific emergency measures.
Avoided Dose	The amount of exposure that could be avoided if protective action options are implemented and followed.
Beta Particle	A particle, identical with a high speed electron, emitted spontaneously from the nucleus of some radioactive atoms. Beta particles have little penetrating power but can be hazardous if inhaled, ingested, or brought into contact with the skin.
Committed Dose	The radiation dose due to radionuclides in the body over a 50-year period following their inhalation or ingestion.
Corrective Actions	Emergency measures taken to ameliorate or terminate an emergency situation at or near the source of the problem, to prevent an uncontrolled release of radioactive material, or to reduce the magnitude of the release, e.g., shutting down equipment, fire-fighting, repair and damage control.

Delayed Health Effects	Radiation effects that are manifested long after the relevant exposure. The vast majorities are Stochastic in which the severity is independent of dose and the probability is assumed to be proportional to the dose, without threshold.
Dose	The quantity of radiation absorbed, per unit of mass, by the body or by any portion of the body.
Dose Commitment	A predetermined dose level that is used for controlling radiation exposure for emergency workers or the general public.
Dose Equivalent	The product of the absorbed dose in rad, a quality factor related to the biological effectiveness of the radiation involved and any other modifying factors. The normalization of a complex mixture of radioisotopes into terms equivalent to the concentration of one particular radionuclide.
Dose Rate	The amount of ionizing radiation delivered per unit of time.
Dosimeter	An instrument to measure the total exposure an individual receives from penetrating, ionizing radiation.
Early Incident Phase	The period at the beginning of a nuclear incident when immediate decisions for effective use of protective actions are required, and must be based primarily on predictions of radiological conditions in the environment. This phase may last from hours to days. For the purpose of dose projection, it is assumed to last for four days.
Electromagnetic Radiation	A radio wave consisting of oscillating magnetic and electric fields. Familiar electromagnetic radiation ranges from X-rays to gamma rays of short wave length, through the ultraviolet, visible, and infrared regions, to radar and radio waves of relatively long wavelength. Travels at the speed of light.
Emergency	An occurrence that results in the loss of control of radioactive materials at a fixed nuclear facility and which involves an immediate or likely hazard to life, health, property, or the environment.

Emergency Action Levels	Plant conditions used to determine the existence of an emergency and to classify its severity. The conditions include radiological dose rates, specific contamination levels (airborne, waterborne, or surface-deposited concentrations) or specific instrument indications (including their rate of change) which may be used as thresholds for initiating such specific emergency measures such as designating a particular class of emergency, taking a notification procedure, or initiating a particular protective action.
Emergency Operation Facility	The power company facility used for direction and control of all emergency and recovery activities with emphasis on the coordination of off-site activities such as dispatching mobile emergency monitoring teams, communications with local, State and Federal agencies, and coordination of corporate and other outside support.
Emergency Operations Center	The protected site from which government officials exercise direction and control in an emergency.
Emergency Planning Zone (EPZ)	The area for which planning is needed to assure that prompt and effective actions can be taken to protect the public in the event of an accident. The plume exposure EPZ is about 10 miles in radius and the ingestion exposure EPZ is about 50 miles in radius.
Emergency Worker	Any person engaged in operations required to minimize the effects of a fixed nuclear facility emergency.
Exclusion Area	The utility-owned area that surrounds a nuclear plant.
Fixation of Contaminated Areas	Processes used to contain radioactive materials in contaminated areas.
Fixed Contamination	Materials or areas contaminated with radiation which are difficult to move or decontaminate.
Fixed Nuclear Facility	Nuclear power plants, reactor fuel fabrication or processing plants, test and research reactors, and other facilities using or producing large quantities of radioactive material. Facility includes structures and secured grounds.

Gamma Rays	Electromagnetic radiations of high energy originating in atomic nuclei and accompanying many nuclear reactions. Gamma rays do not consist of particles, have no mass, travel at the speed of light, are highly penetrating, and may cause damage to living tissue.
Ingestion Exposure Pathway	The potential pathway radioactive materials travel, providing a risk to the public through consumption of contaminated water or foods, such as milk or fresh vegetables. The time of potential exposure could range in length from hours to months. Around a nuclear plant, this is likely to occur within the 50-mile EPZ.
Ion	An atom or molecule that has lost or gained one or more electrons, and thus has become electrically charged.
Ionizing Radiation	Any gamma rays, X-rays, alpha or beta particles, high speed electrons, protons, or nuclear particles that displace electrons from atoms or molecules as they pass through matter, thereby producing ions. Ionizing radiation may produce skin, tissue, or organ damage.
Irradiation	The exposure to ionizing radiation.
Isotopes	Forms of elements having identical chemical properties, but differing in atomic weight. See radioactive isotope.
Lead Agency	The State or local agency that has primary responsibility for a specific function and will direct the accomplishment of that function.
Millirem	A one-thousandth (0.001) of a rem. See rem.
Milliroentgen	A one-thousandth (0.001) part of a roentgen. See roentgen.
Mission Dose	Anticipated dose emergency worker will receive while completing a particular assignment. This dose is variable depending upon the assignment and may exceed the turn back value.
Neutron Radiation	A particular type of radiation having a finite mass and emanating from nuclear collisions. The neutron is an electrically neutral particle that can indirectly cause ionization by interaction with atoms.

Off-Site	All public and private property surrounding the fenced or otherwise secured fixed nuclear facility property.
On-Site	The fenced or otherwise secured fixed nuclear facility property.
Operations Center	The place designated for operations support personnel to report to in an emergency. Often referred to as an emergency operations center or emergency operations facility.
Plume Exposure Pathway	The potential pathway of radioactive materials to the public through - The principal exposure sources from this: (a) whole body external exposure to gamma radiation from the plume and from deposited material; and (b) inhalation the of passing radioactive plume. The time of potential exposure could range from hours to days.
Population at Risk	Persons subject to protective actions during an emergency event.
Protected Area	An area encompassed by physical barriers to which access is controlled.
Protective Action Guide (PAG)	The projected radiological dose to individuals in the population which warrants taking protective action. This guide does not imply what an acceptable level of risk is.
Protective Actions	Emergency measures taken for the purpose of preventing or minimizing radiological exposures.
Radiation	As used in nuclear terminology, refers to energy propagated in the form of high frequency electromagnetic waves such as X-rays and gamma rays, or in the form of nuclear particles such as alpha, beta, or neutron radiation. See ionizing radiation.
Radiation Protection Emergency Team	A team sent from the Radiation Protection Section, Department of Human Resources, to the emergency site to perform technical operations and advise the State Emergency Response Team.

Radioactive Isotope	(Radioisotope) An unstable isotope of an element that decays or disintegrates while spontaneously emitting radiation.
Radioactive Material	Any solid, liquid, or gas which spontaneously emits ionizing radiation.
Radiological Exposure Control	Actions taken to protect the general public, emergency workers, livestock, food, water or property from radiation.
Recovery Actions	Those actions taken after the emergency to restore affected property as nearly as practicable to its pre-emergency condition.
Rem	A unit of measure of dose from any radiation (alpha particles, beta particles, gamma rays, or neutrons) to body tissue in terms of its estimated biological effects. This unit of measure takes into consideration the varying damage causing potential of exposure to X-rays, gamma rays, beta particles and neutrons.
Roentgen	A unit used to measure exposure to gamma (or X) radiation.
Shielding	Any material or obstruction that absorbs (stops) radiation.
Site	That part of the nuclear station property consisting of the reactor, auxiliary, turbine and service buildings and grounds contained within the owner-controlled area fence.
Special Facility Population	School, hospital and family care facility occupants located in the plume exposure EPZ.
State Emergency Response Team (SERT)	A team sent from the Department of Crime Control and Public Safety to the emergency site to coordinate all State actions (and local actions in a declared State of Disaster). The team may include representatives from other State agencies.

State Emergency Response Team Command Post	Field headquarters for SERT.
Technical Support Center	A facility utilized for evaluation of plant status by knowledgeable personnel in support of short-term operations during an emergency situation.
Total Effective Dose Equivalent	The sum of the products of the dose equivalent to each organ and a weighting factor, where the weighting factor is the ratio of the risk of mortality from delayed health effects arising from irradiation of a particular organ or tissue to the total risk of mortality from delayed health effects when the whole body is irradiated uniformly to the same dose.
Turn Back Value	The maximum allowable exposure for workers within a contaminated area. When exposure levels are reached emergency workers are removed from the area.
Warning Point	A facility that receives warning and other information and disseminates or relays this information in accordance with a prearranged plan.
Whole Body Exposure	The external exposure of a person or an animal to radiation.

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